

Serial No. 10/025,901
December 3, 2003
Reply to the Office Action dated June 4, 2003
Page 5 of 9

REMARKS/ARGUMENTS

Claims 1-9 are pending in this application. By this Amendment, Applicants CANCEL claims 10-22.

Applicants greatly appreciate the Examiner's indication that claims 4, 7, and 8 would be allowable if rewritten in independent form including all of the features of the base claim and any intervening claims.

Claims 1, 2, 5, 6, and 9 were rejected under 35 U.S.C. § 102(a) as being anticipated by Ikada et al. (JP 11-312943) or Takata et al. (U.S. 6,557,225). Claim 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Ikada et al. or Takata et al. in view of Nakashima et al. (EP 0 878 905 A2) or Abe (JP 56-43816). Applicants respectfully traverse the rejections of claims 1-3, 5, 6, and 9.

In accordance with MPEP § 201.15, Applicants enclose herewith a certified English translation of the Japanese Priority Application, JP 2000-395515, and a statement that the translation of the certified English translation is accurate. Thus, Applicants respectfully submit that Takata et al. is disqualified as prior art under 35 U.S.C. § 102(a) because the publication date of May 6, 2003 of Takata et al. is after the effective filing date of December 26, 2000 the present application. Furthermore, since the filing date of Takata et al. (April 12, 2001) is after the filing date of Japanese Priority Application JP 2000-395515 (December 26, 2003), Takata et al. is also disqualified as prior art under 35 U.S.C. § 102(e).

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1, 2, 5, 6, and 9 under 35 U.S.C. § 102(a) as being anticipated by Takata et al. and the rejection of claim 3 under 35 U.S.C. § 103(a) as being unpatentable over Takata et al. in view of Nakashima et al. (EP 0 878 905 A2) or Abe (JP 56-43816).

Claim 1 has been amended to recite:

“A method of manufacturing a surface acoustic wave apparatus,
comprising the steps of:

preparing a piezoelectric substrate;
forming a first electrode layer of an electrode pad on the piezoelectric substrate;
forming at least one electrode for a surface acoustic wave element after the step of forming the first electrode layer;
forming a second electrode layer of the electrode pad after the step of forming the electrode for the surface acoustic wave element;
and
forming a wiring electrode for electrically connecting the electrode pad and the electrode for the surface acoustic wave element.” (emphasis added)

Applicants' claim 1 recites the steps of “forming a first electrode layer of an electrode pad on the piezoelectric substrate,” “forming at least one electrode for a surface acoustic wave element after the step of forming the first electrode layer,” “forming a second electrode layer of the electrode pad after the step of forming the electrode for the surface acoustic wave element,” and “forming a wiring electrode for electrically connecting the electrode pad and the electrode for the surface acoustic wave element.” With the improved features of claim 1, Applicants have been able to provide a method of manufacturing a surface acoustic wave apparatus having superior reliability and having high adhesion between the electrode pad and the piezoelectric substrate (see, for example, the last full paragraph on page 5 of the originally filed Specification).

By “forming a first electrode layer of an electrode pad on the piezoelectric substrate,” “forming at least one electrode for a surface acoustic wave element after the step of forming the first electrode layer,” “forming a second electrode layer of the electrode pad after the step of forming the electrode for the surface acoustic wave element” and “forming a wiring electrode for electrically connecting the electrode pad and the electrode for the surface acoustic wave element” the arrangement shown in Figs. 1-4B is achieved. Since the first electrode layer 2a of the electrode pad is formed first, then the electrode 5a of the surface acoustic wave element is formed, and then the second electrode layer 7a of the electrode pad is formed, as seen in Fig. 1, the

Serial No. 10/025,901

December 3, 2003

Reply to the Office Action dated June 4, 2003

Page 7 of 9

electrode pad including the first and second layers 2a and 7a greatly improves the electrical and mechanical connection between the surface acoustic wave element 5 and the wiring electrode 10, because the second electrode layer 7a is formed so as to cover a portion of the surface acoustic wave element 5a such that the portion of the surface acoustic wave element 5a is sandwiched between the substrate 1 and the second electrode layer 7a.

The Examiner has alleged that **Figs. 1 and 2** of Ikada et al. teach every element of the Applicants' claim 1. Applicants respectfully disagree. Applicants' claim 1 clearly recites at least three separate steps of forming electrodes: 1) "forming a first electrode layer of an electrode pad on the piezoelectric substrate," 2) "forming at least one electrode for a surface acoustic wave element **after the step of forming the first electrode layer**," and 3) "forming a second electrode layer of the electrode pad **after the step of forming the electrode for the surface acoustic wave element**" (emphasis added). At best, Ikada et al. teaches only two separate steps of forming electrodes (**Figs. 3a and 3b** show the first step and **Figs. 3c-3f** show the second step), and certainly fails to teach or suggest at least three steps of forming electrodes as recited in Applicants' claim 1. **Figs. 3c-3f** of Ikada et al. clearly teach that the electrodes **15** for the surface acoustic wave element are formed at the same time as the second electrode layer **17** of the electrode pad, **NOT** in two separate forming steps. Thus, Ikada et al. cannot be fairly construed as teaching or suggesting at least three separate forming steps as recited in Applicants' claim 1. Thus, Ikada et al. clearly fails to teach or suggest the steps of "forming a first electrode layer of an electrode pad on the piezoelectric substrate," "forming at least one electrode for a surface acoustic wave element after the step of forming the first electrode layer," "forming a second electrode layer of the electrode pad after the step of forming the electrode for the surface acoustic wave element," and "forming a wiring electrode for electrically connecting the electrode pad and the electrode for the surface acoustic wave element" as recited in Applicants' claim 1.

Serial No. 10/025,901

December 3, 2003

Reply to the Office Action dated June 4, 2003

Page 8 of 9

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. § 102(a) as being anticipated by Ikada et al.

The Examiner has relied upon Nakashima et al. and Abe to allegedly cure various deficiencies in Ikada et al. However, neither Nakashima et al. nor Abe teach the steps of steps of "forming a first electrode layer of an electrode pad on the piezoelectric substrate," "forming at least one electrode for a surface acoustic wave element after the step of forming the first electrode layer," "forming a second electrode layer of the electrode pad after the step of forming the electrode for the surface acoustic wave element," and "forming a wiring electrode for electrically connecting the electrode pad and the electrode for the surface acoustic wave element" as recited in Applicants' claim 1. Thus, Applicants respectfully submit that Nakashima et al. and Abe fail to cure the deficiencies of Ikada et al. described above.

Accordingly, Applicants respectfully submit that Ikada et al., Nakashima et al., and Abe, applied alone or in combination, fail to teach or suggest the unique combination and arrangement of elements recited in claim 1 of the present application. Claims 2-9 depend upon claim 1 and are therefore allowable for at least the reasons that claim 1 is allowable.

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

To the extent necessary, Applicants petition the Commissioner for a THREE-month extension of time, extending to December 4, 2003, the period for response to the Office Action dated June 4, 2003.

Serial No. 10/025,901
December 3, 2003
Reply to the Office Action dated June 4, 2003
Page 9 of 9

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

Date: December 3, 2003


Attorneys for Applicants

Joseph R. Keating
Registration No. 37,368

Christopher A. Bennett
Registration No. 46,710

KEATING & BENNETT LLP
10400 Eaton Place, Suite 312
Fairfax, VA 22030
Telephone: (703) 385-5200
Facsimile: (703) 385-5080